

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: PHILIP R. WADSWORTH  
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## PCT

### WRITTEN OPINION

(PCT Rule 66)

Date of Mailing (day/month/year) <b>13 SEP 2002</b>	
Applicant's or agent's file reference <b>990482PCT</b>	<b>REPLY DUE</b> within <b>TWO</b> months from the above date of mailing
International application No. <b>PCT/US00/25420</b>	International filing date (day/month/year) <b>25 AUGUST 2000</b>
Priority date (day/month/year) <b>25 AUGUST 1999</b>	
International Patent Classification (IPC) or both national classification and IPC IPC(7): HO4B 7/155 and US Cl.: 370/223	
Applicant <b>QUALCOMM INCORPORATED</b>	

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

**When?** See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).~~

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6.

**If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 25 DECEMBER 2001

Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer: <div style="text-align: center;">                       HUY VU                 </div>
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**I. Basis of the opinion**

1. With regard to the **elements** of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
 pages 1-32, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages 33-34, as originally filed  
 pages NONE, as amended (together with any statement) under Article 19  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the drawings:  
 pages 1-10, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the sequence listing part of the description:  
 pages NONE, as originally filed  
 pages NONE, filed with the demand  
 pages NONE, filed with the letter of \_\_\_\_\_

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
 These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".

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**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. statement**

Novelty (N)	Claims	<u>2-9</u>	YES
	Claims	<u>1</u>	NO
Inventive Step (IS)	Claims	<u>2-4</u>	YES
	Claims	<u>1, 5-9</u>	NO
Industrial Applicability (IA)	Claims	<u>1-9</u>	YES
	Claims	<u>NONE</u>	NO

**2. citations and explanations**

Claim 1 lacks novelty under PCT Article 33(2) as being anticipated by Anglin (WO 99/18684). Regarding claim 1, Anglin discloses allocating a reverse link within a band class, the reverse link communicatively coupling a base station and a mobile station (pg. 2 lines 1-6 under Disclosure). This allocation method comprising: transmitting first information on a multi-carrier forward link comprising multiple frequencies (pg. 5 lines 9-18); receiving said first information at said mobile station (pg. 5 lines 13-14) where users are equivalent to a mobile station; transmitting second information on said reverse link (pg. 5 lines 19-21) at one of said multiple frequencies (pg. 4 lines 7-9 and pg. 5 lines 21-22) (the forward link is in frequency bands 2.31-2.32 and 2.345-2.36 GHz while the reverse frequency range is 1KHz-3 GHz); and receiving said second information at said base station (pg. 5 lines 19-21) where the base station is taken to be the network management center.

Claims 5-9 lack an inventive step under PCT Article 33(3) as being obvious over Anglin (WO 99/18684) in view of Jensen et al. (USPN 5,648,955).

Regarding claim 5, Anglin does not disclose having the reverse link varied over the band class allocated to the mobile station. Jensen teaches "each user station may have a frequency synthesizers which can be programmed to receive and transmit on any one of 223 frequencies" (col. 6 lines 22-25). Although it is not explicitly stated that the reverse link can be varied only over the band class allocated to the mobile station, such a feature would not involve an inventive step because the mobile station wants to transmit information over the reverse link such that the base will detect it. This will occur if the transmission is within the band class allocated to the mobile station. Jensen does this to add flexibility to the communication system (col. 1 lines 49-50). To have the reverse link be varied over the band class allocated to the mobile station in order to increase the flexibility of the system would not involve an inventive step.

Regarding claim 6, Anglin in view of Jensen discloses limiting the number of multiple frequencies to only three (Jensen: col. 3 line 63-col. 4 line 5). Jensen does this to (Continued on Supplemental Sheet.)

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VI. Certain documents cited

1. Certain published documents (Rule 70.10)

<u>Application No. Patent No.</u>	<u>Publication Date (day/month/year)</u>	<u>Filing Date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
US, A, 6,335,922	01 JANUARY 2002	11 FEBRUARY 1997	NONE

2. Non-written disclosures (Rule 70.9)

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>

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**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

The drawings are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or content thereof: the drawing includes the following reference sign(s) not mentioned in the description: part number 515 in Fig. 5a. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application.

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: on pg. 10 there is no description of Fig. 7. On page 12 line 13, the phrase "1.95 MHz" should read "1.96 MHz." On page 22 lines 5 and 6, both references to "bit generator 504" should be "bit generator 514" so as to match the reference number seen in Fig. 5d. On page 29 line 16-17, the control processor should be labeled as 615 not 616 so as to match the reference number seen in Fig. 6a.

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

**TIME LIMIT:**

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

**V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):**

minimize interference between adjacent cells when having frequencies reused (col. 3 lines 49-51 and col. 3 line 63-col. 4 line 5). To have the multiple frequencies be limited to three frequencies to allow for minimization of interference between adjacent cells when implementing frequency reuse would not involve an inventive step.

Regarding claim 7, Anglin in view of Jensen discloses having the multiple frequencies be adjacent frequencies (Jensen: col. 3 lines 63-65). One reason that frequencies are placed adjacent to each other is to ensure that the entire frequency band is efficiently used. To have the frequencies adjacent to each other so that efficient use of the frequency band is realized would not involve an inventive step.

Regarding claim 8, Anglin in view of Jensen discloses that it is clear to those of ordinary skill in the art that air channels may be multiplexed using many means including FDMA by assigning air channels to differing frequency bands, CDMA by assigning air channels to differing spread-spectrum spreading codes, other multiplexing techniques (including TDMA), or combinations of multiplexing techniques (Jensen: col. 20 lines 52-62). To use differing techniques depending on the application and what multiplexing arrangement best fit that application would not involve an inventive step. To have multiple adjacent frequencies separate from another frequency supporting another type of channel in order to allow different application to be used with each application taking advantage of its most applicable multiplexing arrangement would not involve an inventive step.

Regarding claim 9, Anglin in view of Jensen discloses that the preferred embodiment of Jensen's system is implemented with TDMA or TDD (Jensen: col. 3 lines 36-40). Although Jensen does not specifically disclose using FDD because Jensen's disclosed embodiment only details TDMA/TDD, Jensen does disclose that the system can be implemented with FDMA techniques. If TDD can be implemented as well as TDMA in the system, it would not involve an inventive step if FDMA techniques are also possible that FDD could also be implemented within the system.

Claims 2-4 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest having the multiple frequencies support any combination of code channels.

**----- NEW CITATIONS -----**

US 5,648,955 A (JENSEN et al) 15 JULY 1997, see column 6, lines 22-25; column 1, lines 49-50; column 3, lines 49-65; column 20, line 52-62.